UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/540,128	03/31/2000	Robbin Hughes	990253	3976

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Qualcomm Incorporated
Patents Department
5775 Morehouse Drive
San Diego, CA   92121-1714

EXAMINER
TRAN, KHANH C

ART UNIT	PAPER NUMBER
2631	5

DATE MAILED: 05/08/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 07-01)

	Application No.	Applicant(s)
Office Action Summary	09/540,128	HUGHES ET AL.
	Examiner	Art Unit
	Khanh Tran	2631

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _31 March 2000_ .

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-18_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) _14_ is/are allowed.

6)☒ Claim(s) _1-13 and 15-18_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

    If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

    a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _4_ .

4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .

5) ☐ Notice of Informal Patent Application (PTO-152)

6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-13, 15-18 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Byun U.S. Patent 6,445,728.

Regarding claims 1 and 15, Byun invention is directed to a method of

establishing a search window size for a mobile station in a cellular system. According to

one embodiment of the method, a mobile station is provided with communication

services from a plurality of base transceiver stations (BTS) wherein each of the plurality

of base transceivers has an inherent pilot signal. The mobile station searching for the

pilot signals received at each searcher position having a constant time interval within a

search window on a time-axis, includes: finding a correlation of energy value at each

searcher position by which a searcher of the mobile station searches for pilot signals

received from the plurality of BTSs at each searcher position within a predetermined

first search window and outputting a result of the searching, estimating the size of the

second search window based on the results of the searching and applying the second

search window size to the mobile station. Hence, it would have been obvious that

coarse search is performed in the predetermined first search window, and the results

are applied to determine fine search second window size to be applied to the mobile station.

Regarding claims 2 and 16, since the mobile station performs the search to establish an appropriate search window size to obtain a good quality signal on the forward channel, as the window size is getting close to the optimum size, it would have been obvious that a number of non-coherent passes would eventually reduce in comparison with the second search that is already optimized.

Regarding claims 3 and 17, for the foregoing same reasons as in claim 2, it would have been obvious that the integration interval should be reduced in comparison with the fine search.

Regarding claims 4 and 18, according to Byun teachings, if the pilot signals are received from one or a plurality of base transceiver stations, the mobile station stores the received pilot signals in a buffer for each searcher. The searcher of the mobile station searches the stored pilot signals at each searcher position. The searcher finds a correlation energy value at each searcher position by comparing the energy of the pilot signal with a predetermined standard energy value and finds a searcher position having the strongest or highest correlation energy value. The search result information is outputted to the CPU 160 and the CPU 160 stores the search result in a memory 190. Although the searcher looks for the strongest or highest correlation energy value, however, it would have been obvious that the searcher can be easily programmed to detect sufficient energy of the first offset corresponding to a first PN encoded pilot signal of a first base station transceiver.

Regarding claims 5, 8 and 13, referring to figure 2, Byun discloses a searcher 134 configured to received search parameters from a control logic 146, a memory 190 configured to store the search result information, the control logic 146 for passing search parameters to the searchers 134. The mobile station performs the search as described in the rejection of claim 1 to establish a search window size. Byun further describes the strategy of the search method as shown in figure 3. The method includes establishing a confidence level for the maximum indexes, calculating a mean value for the maximum indexes, calculating the confidence interval for the maximum indexes, and establishing the search windows from the calculated confidence interval. Hence, Byun teachings obviously address all the features of claim 5 in the instant application.

Regarding claims 6 and 9, said claim is rejected using the same argument rejection of claim 2.

Regarding claims 7 and 10, said claim is rejected using the same argument rejection of claim 3.

Regarding claim 11, said claim is rejected using the same argument rejection of claim 4.

Regarding claim 12, referring to figure 2, the search result information is outputted to the CPU 160 and the CPU 160 stores the search result in the memory 190.

Allowable Subject Matter

2. Claim 14 allowed over prior art.

Conclusion

3. The prior art made of record and not relied upon could be considered pertinent to applicant's disclosure:

A list of references cited by the Examiner shown on the attached PTO-892.

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Khanh Tran whose telephone number is 703-305-2384. The examiner can normally be reached on Tuesday - Friday from 08:00 AM - 05:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703-305-4378. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9314 for regular communications and 703-872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3800.

KCT
May 3, 2003

CHI PHAM
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600